

## RIVER STAGES AND FLOODS FOR SEPTEMBER 1948

ELMER R. NELSON

River stages were mostly below normal during September east of the Mississippi River, except in an area extending north to northeastward from Georgia to the central portion of Ohio and the southwestern tip of Pennsylvania. West of the Mississippi it was above normal in the north-central portion and at a few other widely scattered points. The greatest negative departure was at Vicksburg, Miss., where the Mississippi River averaged 8 feet below normal. The greatest positive departure was at Swan Lake, Miss., where the Tallahatchie averaged 10.2 feet above normal. The only flooding during the month was on the lower Rio Grande in Texas, the Atchafalaya in Louisiana, and the Broad River in South Carolina.

Precipitation during the month was below normal except along portions of the coastal areas of the Middle and South Atlantic States, the Gulf States, and the Pacific Northwest. It was also above normal at a few scattered inland points. The greatest precipitation (twice normal) occurred along the Gulf Coast. Heavy rains occurred over southern Florida in connection with the hurricane of September 21, causing extensive flooding in the Lake Okeechobee area. The section most severely inundated occurred in the vicinity of Clewiston, where 15 inches of rain occurred during and just prior to the storm.

*Atlantic Slope drainage.*—Excessive rains (7.70 inches) occurred over the Broad River in the vicinity of Blairs, S. C., on the 6th, with most of it falling between 8 a. m. and 12 noon, causing light flooding at that point but no damage of consequence. High stages, however, were reached on the small streams in the vicinity, causing wash-outs in the road and railroad beds. A Southern Railroad passenger train ran into a washed-out culvert about ¼ mile north of Blairs, killing the fireman, injuring the engineer, and causing considerable damage to the train. Crops were badly damaged in the area.

*Atchafalaya Basin.*—Light flooding occurred on the Atchafalaya River at Morgan City, La., on the 13th, due to strong south and southeast winds caused by the passage of a small cyclonic disturbance over southwestern Louisiana. These winds caused the water to back up the river to slightly above bank-full stage from 6:15 a. m. to 2:50 p. m. No damage was reported.

*West Gulf of Mexico drainage.*—Heavy rains over southern Texas during the second week of the month caused light to moderate flooding on the lower Rio Grande below Rio Grande City, Tex.

## FLOOD STAGE REPORT FOR SEPTEMBER 1948

[All dates in September unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
Broad: Blairs, S. C.-----	Feet 14	7	7	Feet 15.8	7
MISSISSIPPI SYSTEM					
Atchafalaya Basin					
Atchafalaya: Morgan City, La.-----	6	13	13	6.5	13
WEST GULF OF MEXICO DRAINAGE					
Rio Grande:					
Rio Grande City, Tex.-----	21	11	12	33.0	12
Hidalgo, Tex.-----	21	13	15	22.7	14
Mercedes, Tex.-----	21	12	17	23.1	14
Brownsville, Tex.-----	18	16	17	18.4	16

ESTIMATED FLOOD LOSSES FOR 1946<sup>1</sup>

BENNETT SWENSON

Monetary losses from floods in the United States during 1946, estimated at about \$71,000,000, were considerably smaller than in the two previous years. The loss in life was considerably less than in 1945, with 28 lives lost as compared with 91 during 1945. The savings resulting from the flood forecasting and warning service was reported at about \$5,500,000.

A major flood with record stages occurred in the Susquehanna River Basin during the last few days of May, causing considerable property damage and loss of several lives. Unusual early floods occurred in eastern Iowa and adjoining portions of Illinois, Wisconsin, and Minnesota in January. The greatest flood since September 1921, occurred in the vicinity of San Antonio, Tex., during September, with the loss of several lives and property damage of several million dollars.

<sup>1</sup> Flood loss statistics for 1944 and 1945 were published in the June 1948 issue of the MONTHLY WEATHER REVIEW.

## ESTIMATED FLOOD LOSSES FOR 1946—Continued

River and drainage	Tangible property	Matured crops	Prospective crops	Livestock and other movable farm property	Suspension of business	Total	Lives lost
<b>HUDSON RAY DRAINAGE</b>							
Red River of the North.....	\$13,300					\$13,300	
<b>ST. LAWRENCE DRAINAGE</b>							
<i>Lakes Michigan and Huron</i>							
Grand and Saginaw Rivers.....	130,500			\$10,000	\$9,800	150,300	
Fox River.....	12,000					12,000	
Total.....	142,500			10,000	9,800	162,300	
<i>Lake Erie</i>							
Sandusky River.....			\$75,000			75,000	
<b>ATLANTIC SLOPE DRAINAGE</b>							
Connecticut River.....	13,000					13,000	
Schuylkill River and Perkiomen Creek.....	456,700				80,700	537,400	2
Tioga River.....						1,650,000	
Susquehanna River.....						17,300,000	12
Pee Dee River.....				1,000	14,500	14,500	
Saluda River.....				1,000	1,000	2,000	
Broad River.....			1,000		1,000	2,000	
Congaree River.....	15,000		18,000	400	43,000	76,400	
Catawba and Wateree Rivers.....	5,000				2,500	7,500	
Santee River.....					50,000	50,000	
Oconee River.....					15,900	15,900	
Altamaha River.....					5,000	5,000	
Total.....	489,700		19,000	1,400	196,700	8,672,700	14
<b>EAST GULF OF MEXICO DRAINAGE</b>							
Chattahoochee River.....						1,349,200	
Apalachicola River.....					9,000	9,000	
Choctawhatchee River.....	623,400	\$15,000	1,283,500	14,800	36,300	1,973,000	
Etowah, Oostanuala, Coosa, Alabama, and Cahaba Rivers.....	150,000	75,000		1,000	25,000	251,000	
Tombigbee and Black Warrior Rivers.....	160,800	10,800	500	5,000	64,500	241,600	
Pearl River.....	28,500		9,000	17,000	70,000	122,500	
Total.....	960,700	100,800	1,293,000	37,800	204,800	2,962,800	
<b>MISSISSIPPI SYSTEM</b>							
<i>Upper Mississippi Basin</i>							
Crow Wing River.....	45,000		35,000			80,000	
Chippewa River.....	20,800		1,500			22,300	
Zumbro and Whitewater Rivers.....	7,400				500	7,900	
Trempealeau River.....	1,000					1,000	
Black River.....	27,000				1,000	28,000	
Bad and White Rivers.....	1,930,200	8,000	30,000	27,000	200,000	2,195,200	
Root River.....	76,000	21,600		2,800	3,200	103,600	
Crooked Creek.....	415,000	1,000	50,000	20,000	10,000	496,000	
Upper Iowa River and tributaries.....	73,900	4,000	2,500	500	4,800	85,700	
Kickapoo River.....	53,100	600		300	4,600	58,600	
Wisconsin River.....	5,000					5,000	
Rock River.....	22,000	2,500			2,000	26,500	
Skunk River.....	36,600		343,700	200		380,500	
Raccoon River.....	500		5,000	100		5,600	
Des Moines River.....	461,600	162,000	533,000	10,400	2,000	1,169,000	4
Fox River.....	155,000		260,000	3,500	12,700	431,200	
Salt River.....	1,500		800			2,300	
Illinois River.....		30,000				30,000	
Mississippi River (above Cape Girardeau, Mo.).....	1,628,400	657,600	1,087,300	54,200	88,400	3,515,900	
Total.....	4,960,000	885,300	2,348,800	119,000	329,200	8,642,300	4
<i>Missouri Basin</i>							
Yellowstone River.....	250,900		81,100		3,700	335,700	
Cheyenne River.....	351,000	18,300		1,200	10,000	380,500	
Platte River.....	2,400	2,000				4,400	
Nishnabotna River.....	32,200	3,800	4,000	400	4,000	44,400	
Solomon River.....	148,700		310,500	500	3,500	463,200	
Saline River.....	51,400		78,800			130,200	
Smoky Hill River.....	20,300		89,000		2,000	111,300	
Republican River.....	449,500		743,500	400	1,000	1,194,400	
Blue River.....	13,800		86,600			100,400	
Elkhorn River.....	800					800	
Wakarusa River.....	10,700		94,500	100		105,300	
Grand River.....	59,900	130,400				190,300	
Chariton River.....	312,700	2,135,200			10,100	2,458,000	
Osage River.....	78,600	504,600				583,200	
Gasconade River.....	61,700	503,000		300	500	565,500	
Missouri River and minor tributaries.....	1,019,500	18,300	574,700	3,500	21,600	1,637,600	
Total.....	2,864,100	3,315,600	2,062,700	6,400	56,400	8,305,200	

See footnotes at end of table.

## ESTIMATED FLOOD LOSSES FOR 1946—Continued

River and drainage	Tangible property	Matured crops	Prospective crops	Livestock and other movable farm property	Suspension of business	Total	Lives lost
<b>MISSISSIPPI SYSTEM—continued</b>							
<i>Ohio Basin</i>							
Allegheny River.....						<sup>1</sup> \$800,300	
Four-Pole Creek.....	\$19,000					19,000	
Big Sandy River.....	277,900	\$25,000		\$1,100	\$17,000	321,000	
Scioto and Olentangy Rivers.....	16,500		\$1,311,000			1,327,500	
Wabash and White Rivers.....	1,000	10,500	500		6,000	18,000	
Cumberland River.....						<sup>1</sup> 3,916,200	
French Broad River.....	4,800	200	1,000			6,000	
Tennessee River.....	1,298,900		2,694,200		647,400	4,640,500	
Ohio River.....	1,200	61,600		200	2,000	65,000	
Total.....	1,619,300	97,300	4,006,700	1,300	672,400	10,913,500	
<i>White Basin</i>							
White River.....	107,600	392,700	28,000	11,000	230,800	770,100	
<i>Arkansas Basin</i>							
Cottonwood River.....	56,300	3,000	180,000	5,300	3,000	247,600	
Neosho River.....	38,400	600	32,000	2,000	300	73,300	
North Canadian River.....	107,200		<sup>2</sup> 470,900			578,100	
Poteau River.....	500		20,000	2,100	26,800	49,400	
Arkansas River.....		73,000				73,000	
Total.....	202,400	76,600	702,900	9,400	30,100	1,021,400	
<i>Red Basin</i>							
Ouachita River.....	138,700	45,100	30,300	18,500	39,800	270,400	
Little River.....	8,500	1,000	100,000	7,500		117,000	
Sulphur River.....	65,000	10,000	24,800	11,400	11,500	122,700	
Red River.....	419,200	10,000	40,000	55,000	400,000	924,200	
Total.....	629,400	66,100	195,100	92,400	451,300	1,434,300	
<i>Lower Mississippi Basin</i>							
St. Francis River.....	100,000	250,000	15,000	2,000	30,000	397,000	
Tallahatchie River.....			10,000			10,000	
Yazoo and Coldwater Rivers.....	2,000,000	10,000	545,000	10,000	550,000	3,115,000	
Mississippi River (below Cape Girardeau, Mo.).....	250,000	500,000	50,000	10,000	75,000	885,000	
Total.....	2,350,000	760,000	620,000	22,000	655,000	4,407,000	
<b>WEST GULF OF MEXICO DRAINAGE</b>							
Sabine River.....	145,700	1,200	58,000	24,700	54,600	284,200	
San Antonio and Nueces Rivers.....	5,867,500	384,000	342,000	37,300	252,500	6,883,300	9
Trinity River.....	822,500	3,246,200	4,345,200	63,500	122,900	8,590,300	1
Guadalupe River.....	125,000	78,000	3,500	2,500		209,000	
Total.....	6,960,700	3,709,400	4,748,700	118,000	430,000	15,966,800	10
<b>GREAT BASIN DRAINAGE</b>							
San Pitch River.....	99,800		4,700	300	5,000	99,800	
<b>PACIFIC SLOPE DRAINAGE</b>							
<i>Columbia Basin</i>							
Kootenai River.....			18,200			18,200	
Potlatch Creek.....	163,200				5,000	168,200	
Willamette River.....						<sup>1</sup> 5,528,000	
Total.....	163,200		18,200		5,000	5,714,400	
<i>Puget Sound</i>							
Green River.....	528,800	35,000		40,000	55,000	658,800	
Cedar River.....	55,000					55,000	
Snohomish River.....	16,000	<sup>4</sup> 771,000		2,300	9,500	798,800	
Skagit Basin and Nooksack River.....	140,000					140,000	
Total.....	739,800	806,000		42,300	64,500	1,652,600	
Grand total.....	22,292,500	10,209,800	16,122,800	471,300	3,341,000	70,813,500	28

<sup>1</sup> Unclassified.<sup>2</sup> Includes losses of \$16,500 which were not classified.<sup>3</sup> Includes all farm losses.<sup>4</sup> Includes all crop losses.